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they please, and the weight of the Vial full of water taken exactly at every time, and recorded, marking withall the degree of *Latitude*, and the day of the Month : And that as well of water near the Top ; as at a greater Depth.

Some Observations concerning Jupiter. Of the shadow of one of his Satellites seen, by a Telescope passing over the Body of Jupiter.

I have received an Account from very good hands, That on the 26th. of September last, at half hour after seven of the Clock, was seen, both in *Holland* and in *France* (by curious Observers, with very good Telescopes) the shadow of one of the *Satellites* of *Jupiter*, passing over his Body. One of those small Stars moving about his Body (which are therefore called his *Satellites*) coming between the Sun and it, made a small Eclipse, appearing in the Face of *Jupiter* as a little round black Spot. The Particulars of those Observations, when they shall come to our Hands, we may (if need be) make them publik : Which Observations, as they are in themselves very remarkable, and argue the Excellency of the Glasses by which they were discovered ; So are we, in part, beholding to Monsieur *Cassini* for them, who giving notice before-hand of such Appearances to be expected, gave occasion to those Curious Observers to look for them.

Of a permanent Spot in Jupiter : by which is manifested the conversion of Jupiter about his own Axis.

Besides that Transient Shadow last mentioned, there hath been observed, by Mr. *Hook* first (as is mentioned in Numb. I. of these *Transact.*) and since by M. *Cassini*, a permanent Spot in the Disque of *Jupiter*; by the help whereof, they have been able to observe, not onely that *Jupiter* turns about upon his own Axis, but also the Time of such conversion ; which he estimates

estimates to be, 9 hours and 56 minutes.

For as Kepler did before conjecture, from the motion of the Primitive Planets about the Sun as their Center, that the Sun moved about its own Axis, but could not prove it, till by Galileo and Shiner the Spots in the Sun were discovered; so it hath been thought reasonable, from the Secundary Planets moving about Jupiter, that Jupiter is also moved about his Axis; yet, till now, it hath not been evinced by Observation, That it doth so move; much less, in what Period of Time. And the like reason there is to judge so of Saturn, because of the Secundary Planet discovered by Monsieur Huygens de Zulichem to move about it; (though such motion be not yet evinced from Observation:) as well as that of the Earth, from its Attendant the Moon.

Whether the same may be also concluded of the other Planets, Mars, Venus, and Mercury, (about whom have not yet been observed any Secondary Planets to move,) is not so evident. Yet there may be somewhat of like probability in those. Not only, because it is possible they may have Secundary Planets about them, though not yet discovered; (For, we know, it was long after those of Jupiter, before that about Saturn was discovered; and who knows, what after times may discover about the rest?) But because the Primary Planets being all in like manner enlightened by the Sun, and (in all likelihood) moved by it; it is likely that they be moved by the same Laws and Methods; and therefore turn'd about their own Axis, as it is manifest that some of them are.

But, as for the Secundary Planets, as well those about Jupiter, as that about Saturn; it is most likely that they have no such Rotation upon their Axis. Not so much, because, by reason of their smallness, no such thing hath been yet observed, (or, indeed, could be, though it were true;) But because they being Analogical to our Moon, it is most likely that they are moved in like manner. Now, though it be true,

true, that there is some kind of *Libration* of the Moon's body, so that we have not precisely just the same part of it looking towards us; (as is evident by Hevelius observations, and others;) yet is there no Revolution upon its Axis; the same part of it, with very little alteration, always respecting us, as is to be seen in Hevelius his *Treatise de Motu Lunæ Libratorio*; and, indeed, by all those who have written particularly of the spots in the Moon; and is universally known to all that have with any curiosity viewed it with Telescopes.

Of some Philosophical and curious Books, that are shortly to come abroad.

1. *Of the Origine of Forms and Qualities, deduced from Mechanical Principles*; by the Honorable Robert Boyle Esq.
2. *Hydrostatical Paradoxes*, by the same Both in English.
3. *A Tract of the Origine of the Nile*, by Monsieur Isaac Vossius, opposed to that of Monsieur de la Chambre, who is maintaining, That Niter is the principal cause of the Inundation of that River.
4. *A Dissertation of Vipers*, by Signor Redi, an Italian.
5. *A Discourse of the Anatomy of a Lyon*, by the same.
6. Another, *De Figuris Salium*, by the same.
7. A Narration of the Establishment of the *Lyncei*, an Italian Academy, and of their Design and Statutes: the Prince Cest being the Head of them, who did also intend to establish such Philosophical Societies in all parts of the World, and particularly in Africa and America, to be by that means well informed of what considerable productions of Nature were to be found in those parts. The Author yet *Anonymous*.
8. To these I shall add, a Book newly Printed in Oxford (and not yet dispersed) being, *A Catalogue of Fixed Stars with their Longitudes, Latitudes, and Magnitudes, according to the Observations of Uleg-Beig* (a King, and famous Astronomer, who was Great-Grand-childe to the famous Tamerlane